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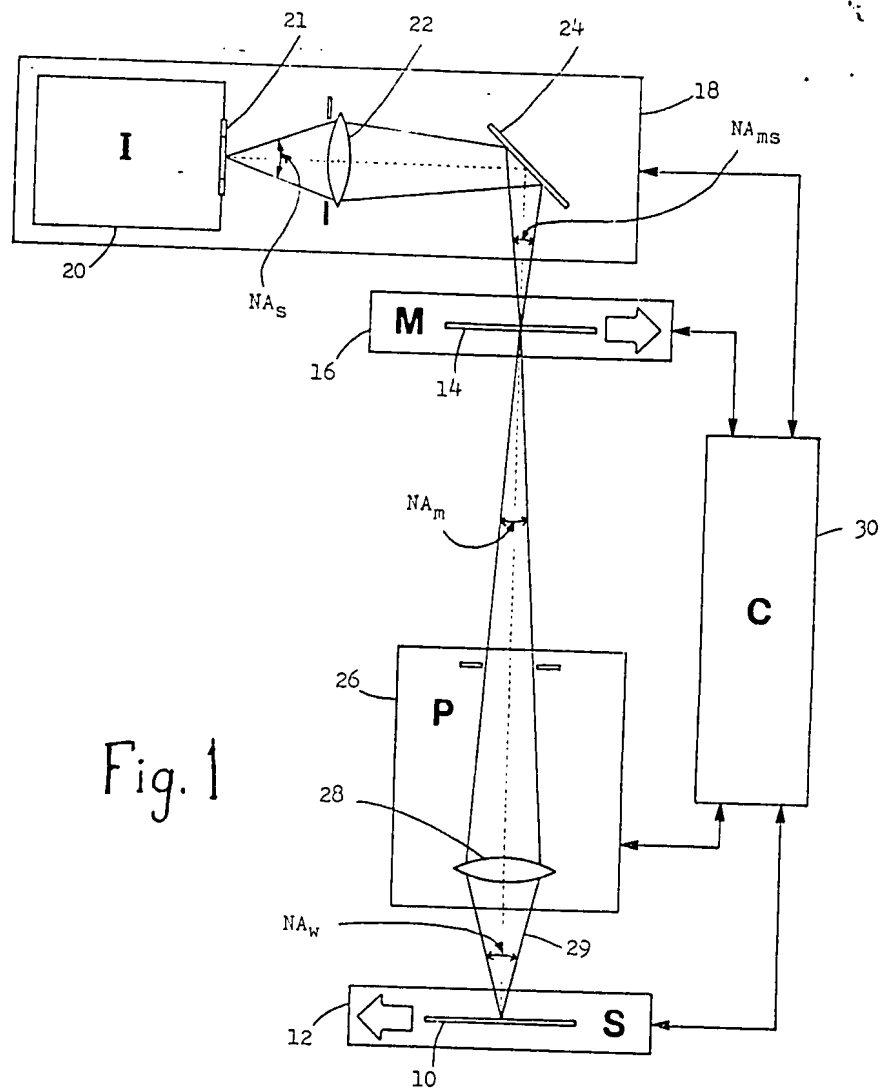


Fig. 1

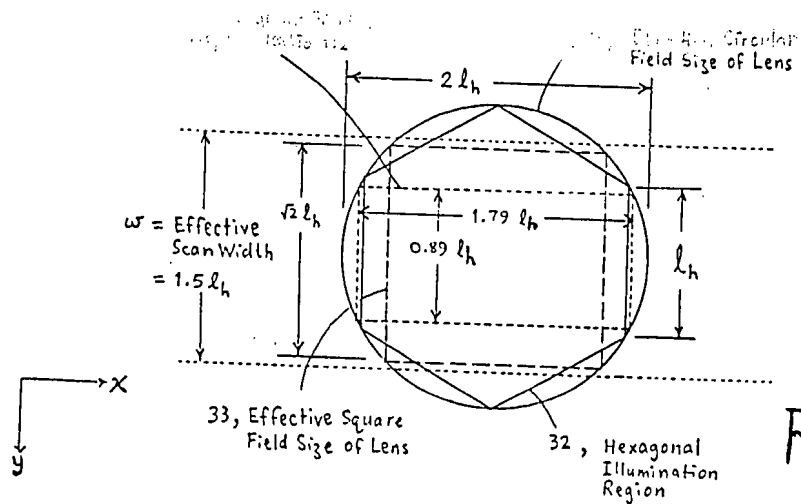


Fig. 2

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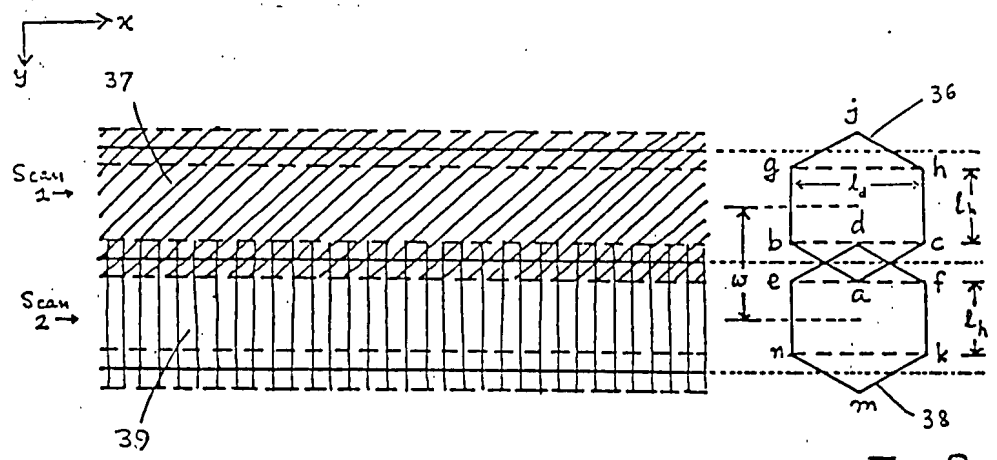


Fig. 3

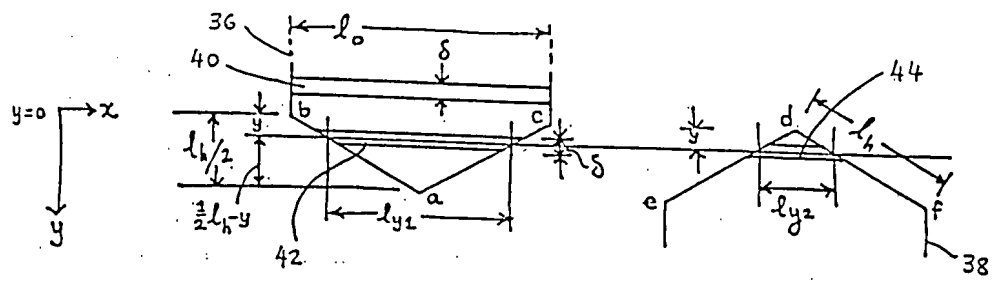


Fig. 4

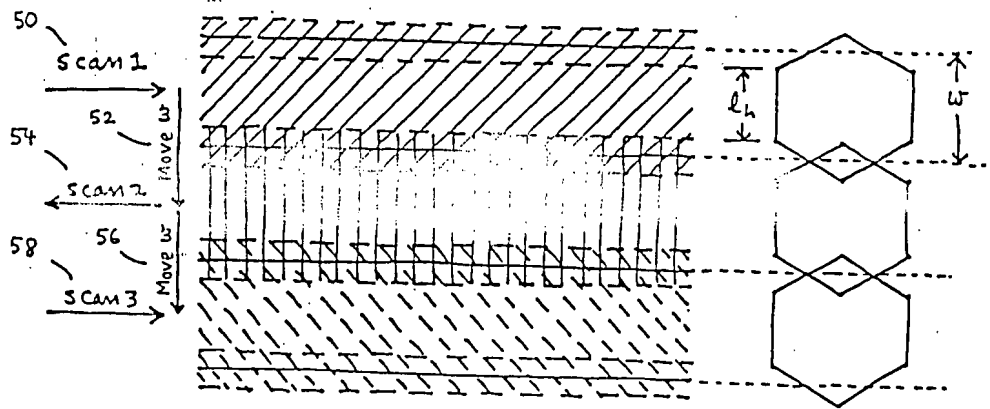


Fig. 5

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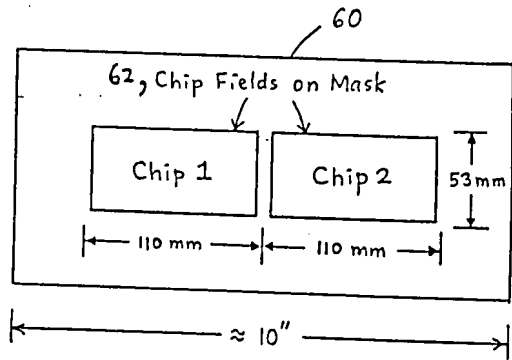


Fig. 6

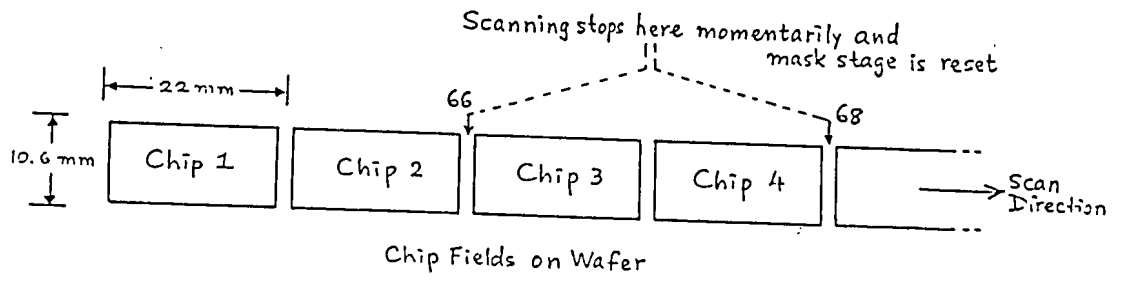


Fig. 7

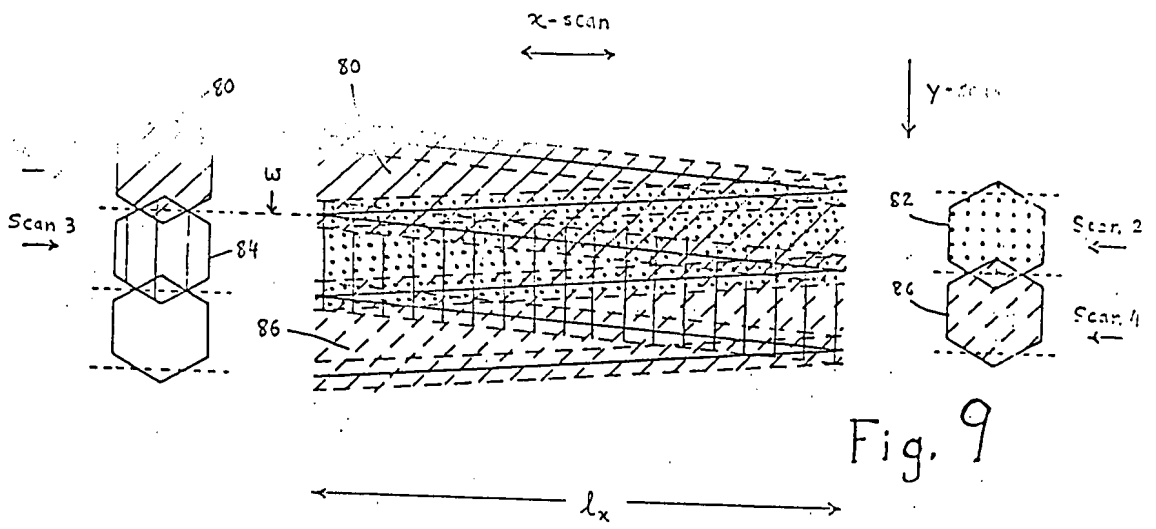


Fig. 9

Fig. 8A

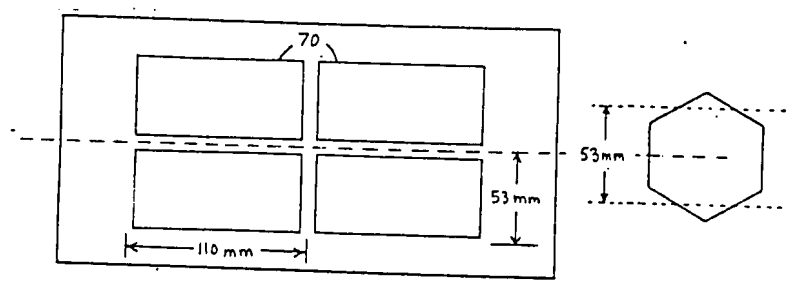


Fig. 8B

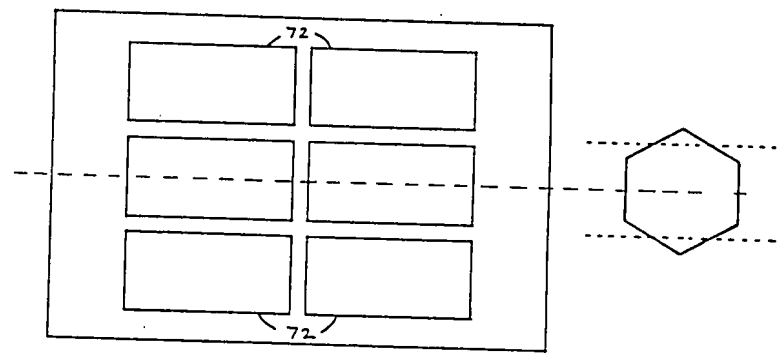


Fig. 8C

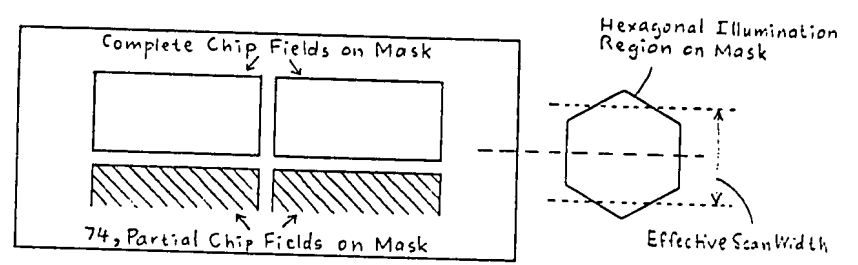


Fig. 8D

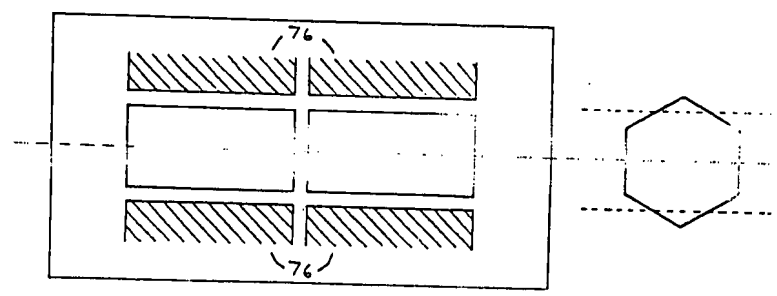


Fig. 8

Table I

$D_s$ = Resist Sensitivity ( $\text{mJ}/\text{cm}^2$ )	10			50			100		
$f$ = Laser Pulse Repetition Rate (Hz)	303	204	98	303	204	98	303	204	98
$N$ = Number of Overlapping Pulses	37	25	12	37	25	12	37	25	12
$E_w$ = Energy Dens./Pulse at Wafer ( $\text{mJ}/\text{cm}^2$ )	0.27	0.40	0.83	1.35	2.00	4.17	2.70	4.00	8.33
$e_w$ = Energy per Pulse at Wafer (mJ)	0.35	0.52	1.08	1.76	2.60	5.42	3.51	5.20	10.8
$P_w$ = Power Incident on Wafer (mW)	106	106	106	530	530	530	1060	1060	1060
$P_L$ = Laser Power (W)	0.53	0.53	0.53	2.65	2.65	2.65	5.30	5.30	5.30

Fig. 10

Table II. WAFER THROUGHPUT CALCULATION

Wafer Diameter (mm)	Chip Size (mm x mm)	Number of Chips on Wafer	Throughput (Wafers/hr)		
			Every Site Align	Every 4th Site Align	Every 10th Site Align
125	10.6 x 22	52	68.7	97.8	105.9
150	10.6 x 22	70	54.0	81.3	90.2
200	10.6 x 22	104	34.9	57.0	65.2

Fig. 11